Marine Exchange of Alaska
PACTRACS
Vessel Tracking System
User's Manual

Vessel Tracking System that employs AIS (Automatic Identification System) and Satellite communications to aid safe, secure, efficient and environmentally sound maritime operations.

www.mxak.org

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Introduction

PACTRACS

Welcome to the Marine Exchange of Alaska's Vessel Tracking System - PACTRACS. This system is designed to track vessels in the Pacific to aid safe, secure, efficient and environmentally responsible maritime operations. Using PacTracs, you can find information on a vessel's present and past locations, speed, route, destination and more.

PACTRACS is capable of receiving, processing and displaying the positions of vessels received by both AIS (Automated Identification System) and satellite tracking systems. The Marine Exchange established and operates over 60 AIS receiving stations in Alaska from Prudhoe Bay west to Adak and south to Ketchikan that provide the positions of AIS equipped vessels operating near these sites. The Marine Exchange also has access to AIS information from an additional 100+ AIS sites in the lower 48 operated by affiliated Marine Exchanges.

The reach of AIS coverage, depending on location, elevation, terrain masking, ranges from 20-150 miles from AIS sites. Vessel position reports are received several times a minute, Near worldwide tracking coverage is provided by satellites tracking systems which transmit positions at less frequent intervals, normally every 1-4 hours.

Log-In Page and Directions

PACTRACS is a secure vessel tracking program accessible by authorized users who may view vessel tracking information via a web accessed graphical user interface through use of an assigned username and password.

The log in page may be accessed through the Marine Exchange web site at www.mxak.org and selecting the vessel tracking tab at the top of the web page or the quick link at the bottom of the page.

PACTRACS may also be accessed through the www.pactracs.com web site.

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One User Name – One Person

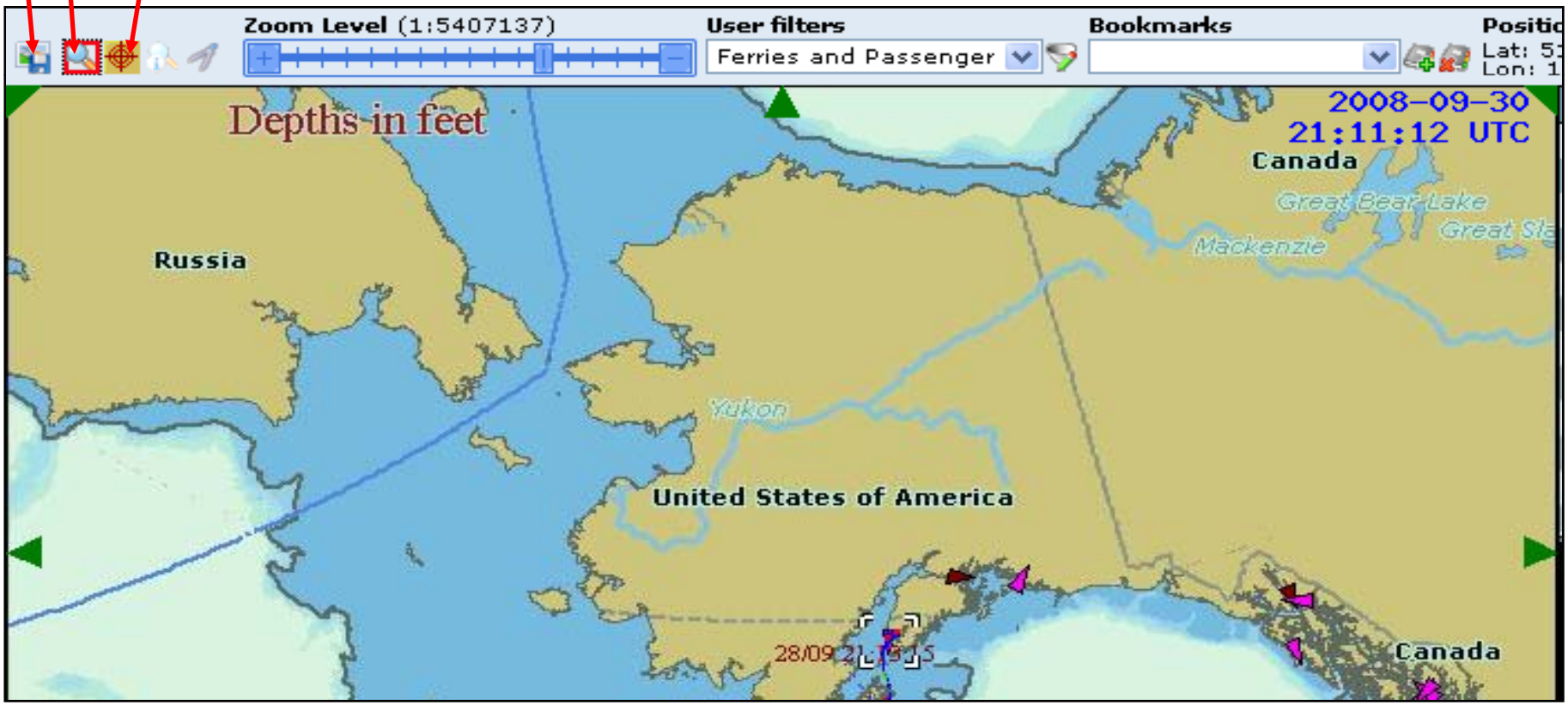
- Only one person may be logged into PACTRACS using the same user name and password at the same time. If one logs into the system they take precedence and the other person previously on the system is forced off.

Navigation Area: Save Image, Zoom, Center

Save Image Select this icon to save the image currently shown on the screen. Upon clicking the icon a dialog will appear giving the options of showing the image or saving it to disc.

Zoom Box In this mode, the user can quickly navigate and zoom in on the chart by drawing a rectangle encompassing an area. After drawing the rectangle the map will zoom into the area defined by the drawn rectangle.

Center Selection Upon selecting this icon and then clicking on the map, the map centers around the selected point with the current zoom level maintained. If selecting a target, information on the vessel is also displayed.

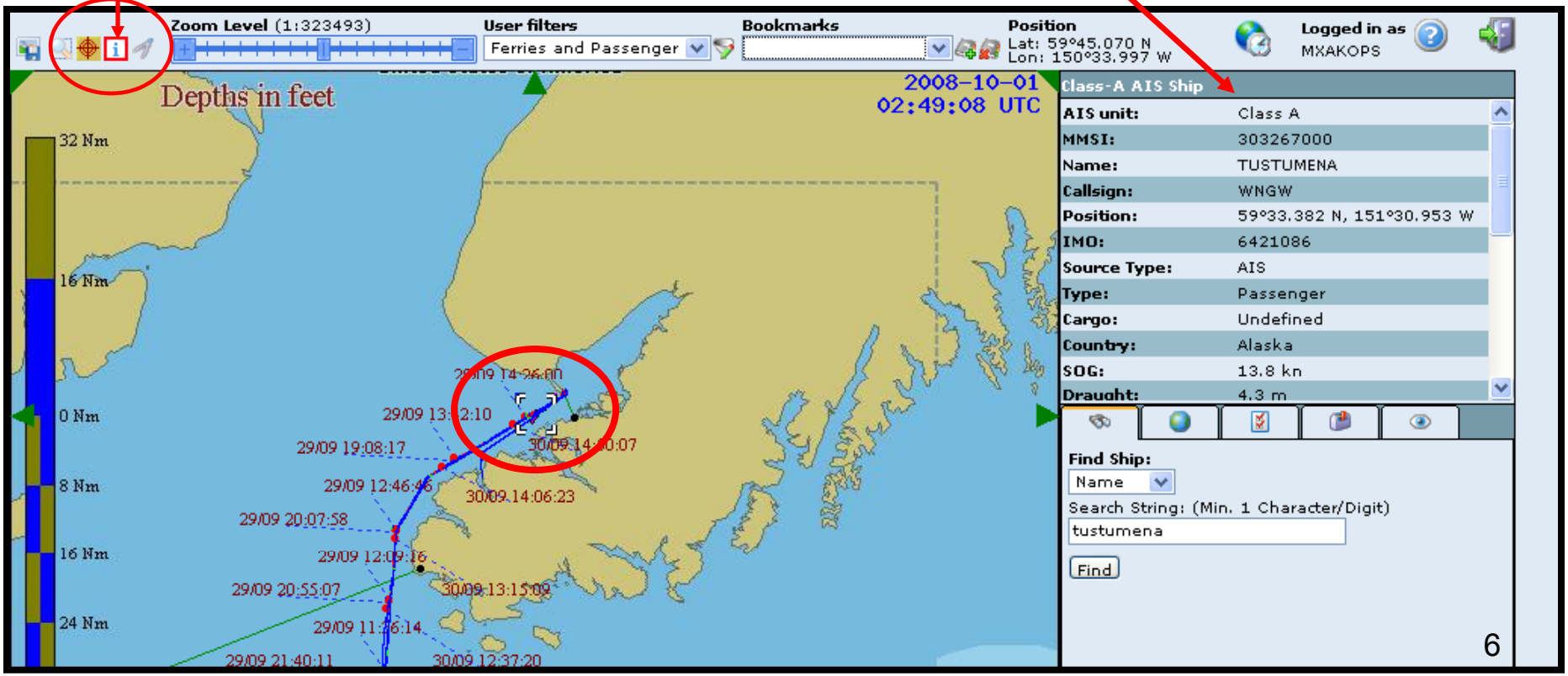


Navigation Area: Target Information Tool

Target Information: Clicking the info symbol highlights the **i**

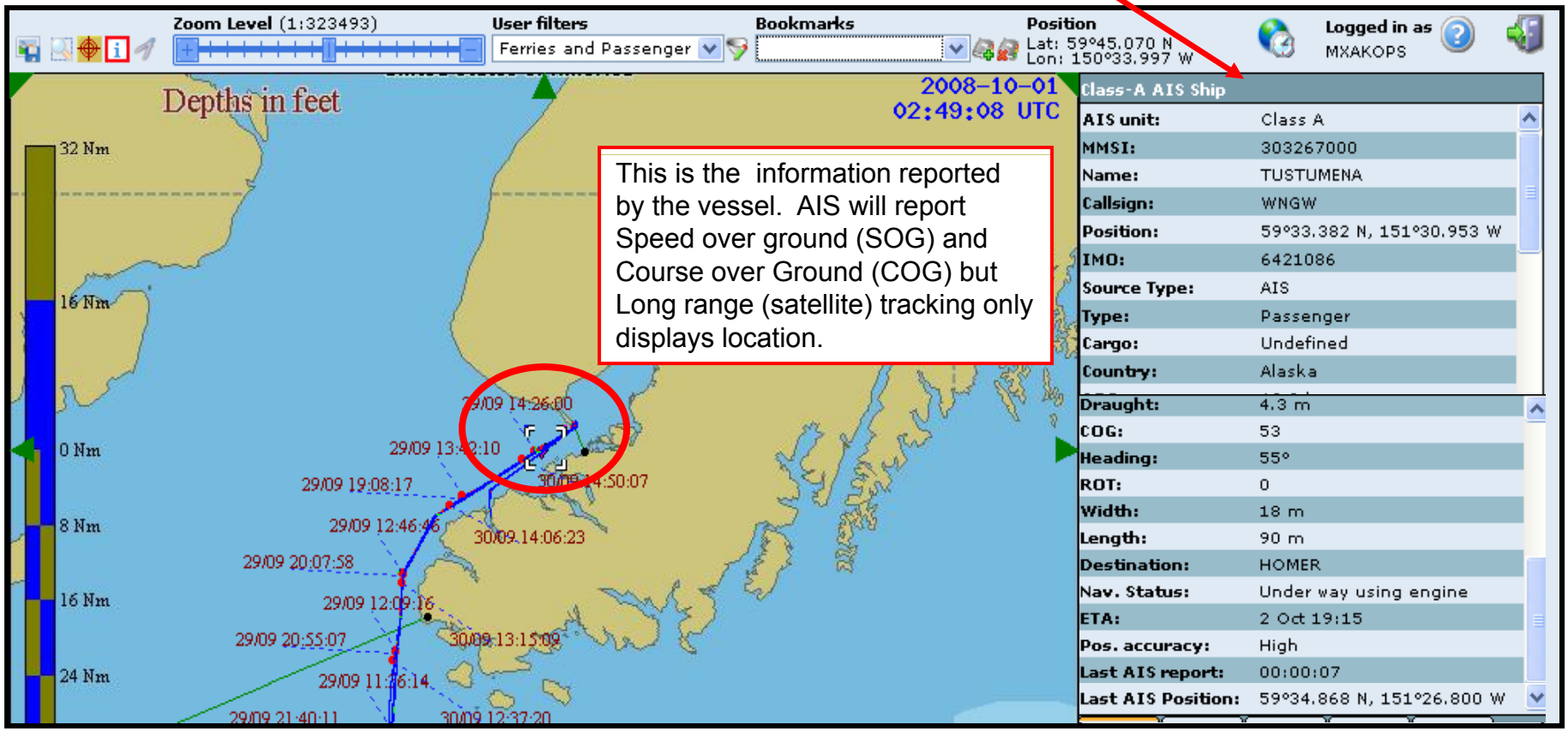
In this mode the user obtains additional information on the selected vesssel.

Information on the selected vessel is displayed in the Window at right.



Navigation Area: Target Information Window

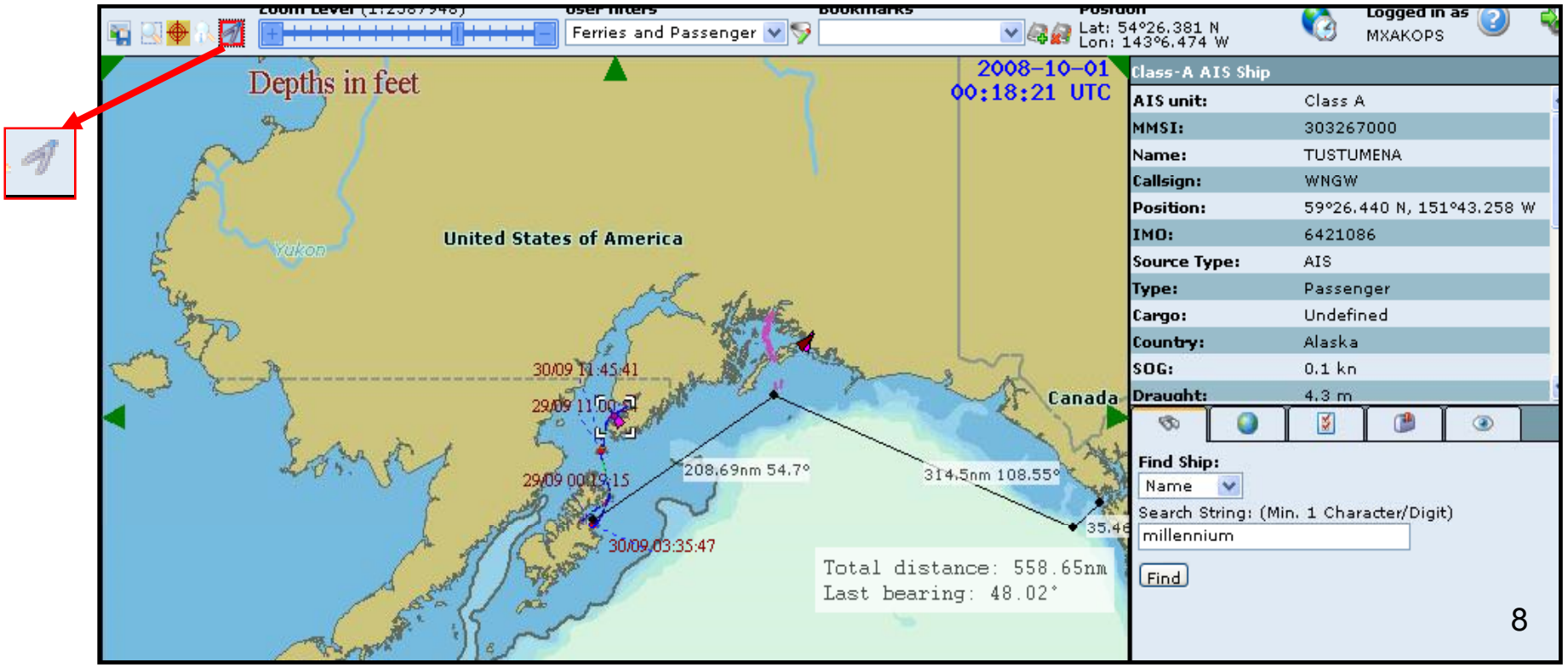
Information Window When the user clicks a target (e.g. an AIS equipped vessel, an AIS base station, virtual area, etc.) on the chart, information about the selected target is displayed in the information window. As illustrated below, this window will display the available AIS properties for the selected target.



Navigation Area: Measure Distances

Measuring Distances

- Upon selecting the measurement (dividers) icon, the starting point of the measurement is set upon clicking on the chart at the desired starting point. While moving the cursor a measurement tool appears.
- When left clicking a new point is set, and the fixed line will be updated with distance and bearing between the two points displayed.
- Upon double clicking the tool is fixed as is the text box. Double clicking once more on the map will make the measure tool and text box disappear.
- A measurement can be cancelled by pressing the Escape key.

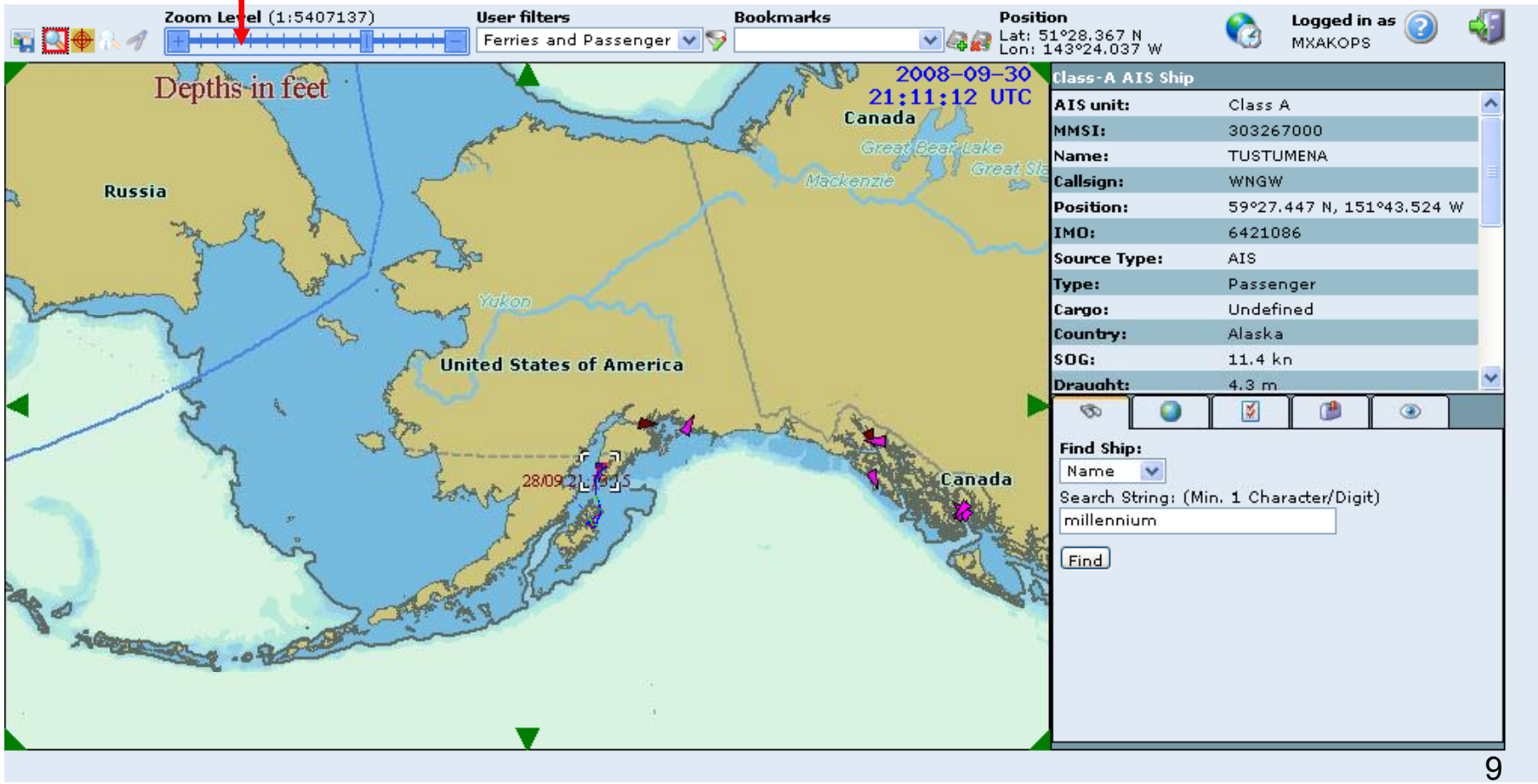


Navigation Area: Zoom Bar

Zoom bar. The zoom bar shows the detail level the chart is currently displaying. When the bar is placed to the left most extreme, the chart is zoomed in to show maximum detail levels where the physical size of the AIS tracked vessels is displayed. At the right most extreme, the least details are shown (at this zoom level countries can be seen). The current scale is displayed above the zoom bar.

Zoom in. When the user clicks this button, the map zooms in one detail level (more detail can be seen).

Zoom out. When the user clicks this button, the map zooms out one detail level (less detail can be seen).



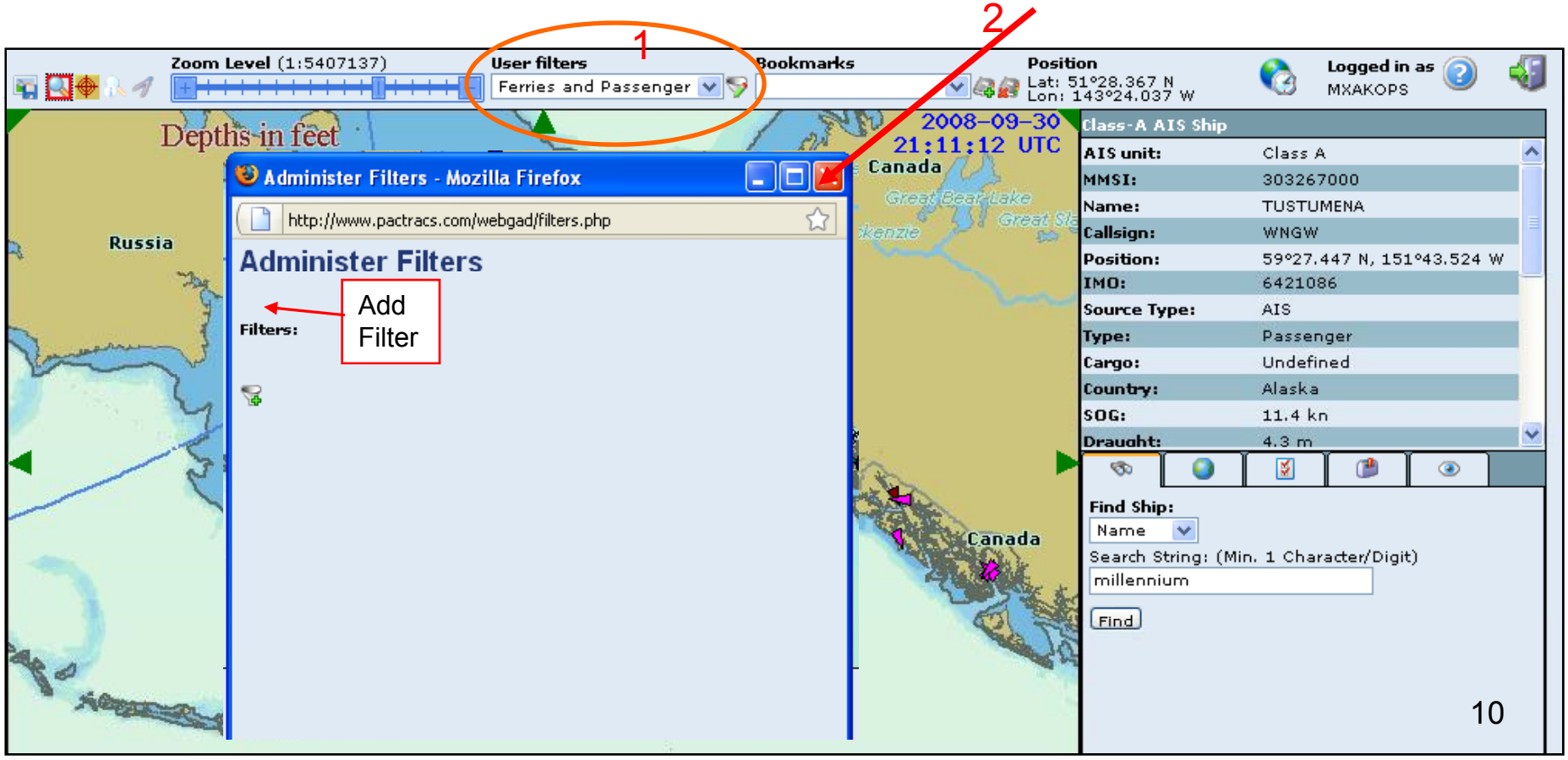
Navigation Area: Filters

1. The filter drop down menu allows the user to apply existing user defined filters:

   A filter modifies the vessels displayed, i.e. in the example below only Ferries and Passenger vessels are displayed.

   To disable the filter, the option "no filter" should be selected from the drop down menu and all vessels will be shown.

2. To define/edit filters, select the filter administration button. This will open the Filter Administration window. (See next page for more info on this feature)



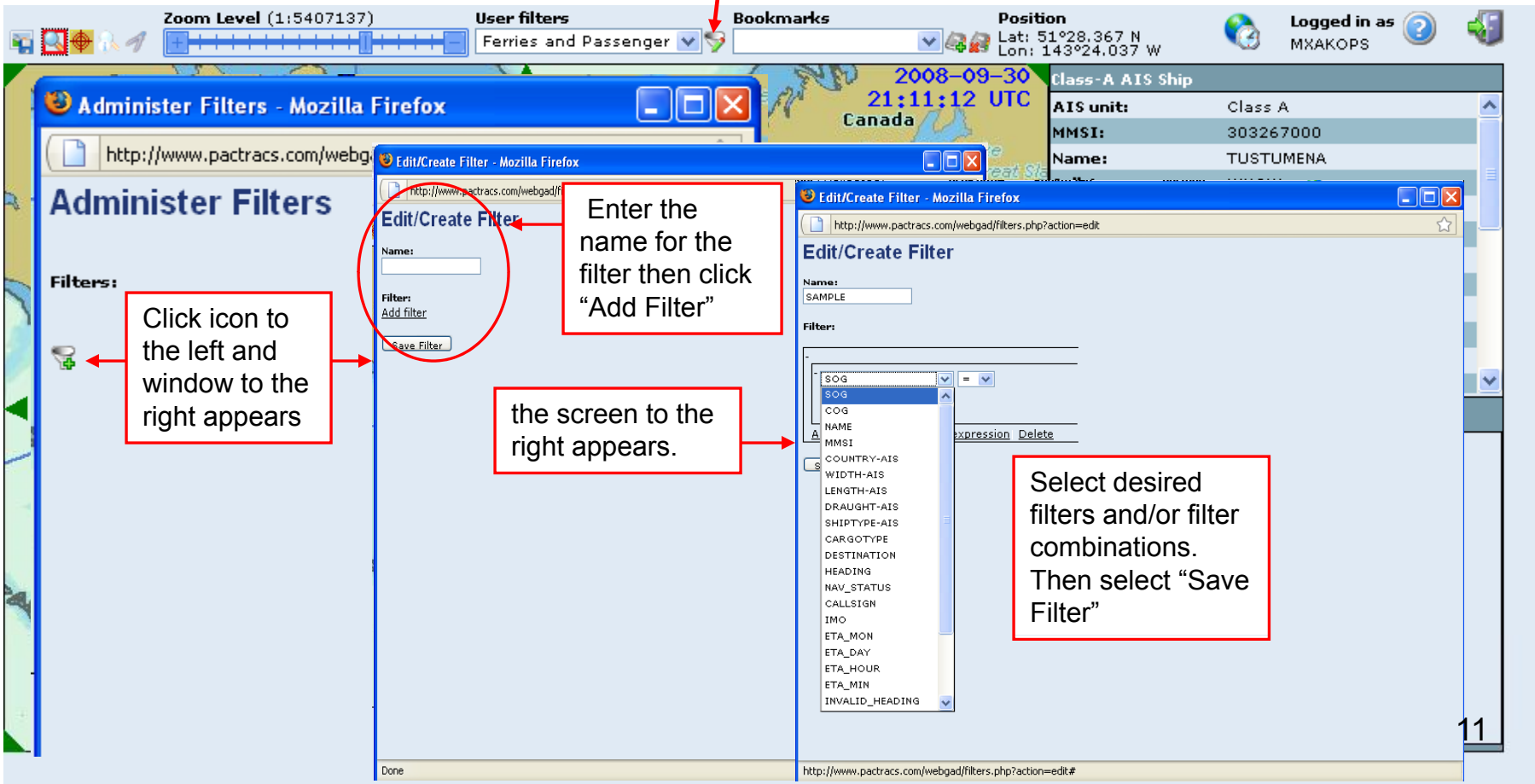
Navigation Area: Vessel Filters (cont'd)

The filter administration tool allows the user to create filters that can be applied on the AIS data.

The user can set the entity that is filtered (e.g. name, ship type, cargo, etc) by clicking the dropdown menu.

The user can further define the filter by length, destination, and other data captured by AIS.

The user activates the filter by clicking the filter dropdown in the main window and selecting the desired filter.



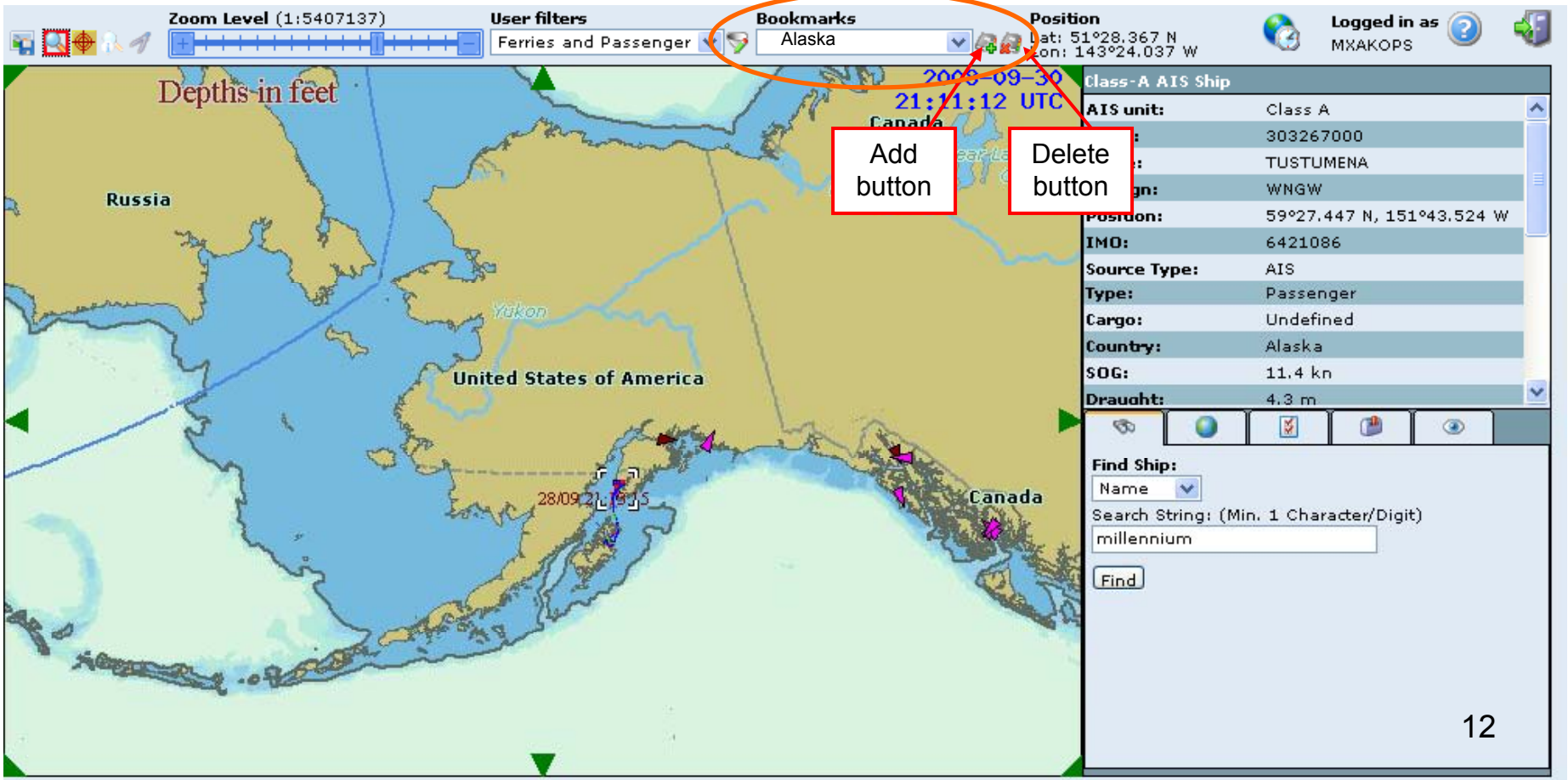
Navigation Area: Bookmarks

Bookmarks allows the user to save and readily return to designated areas:

The user can create a bookmark by navigating to a chart display area using the various navigational functions. Next the user clicks the “add” bookmark button, and a bookmark prompt is displayed:

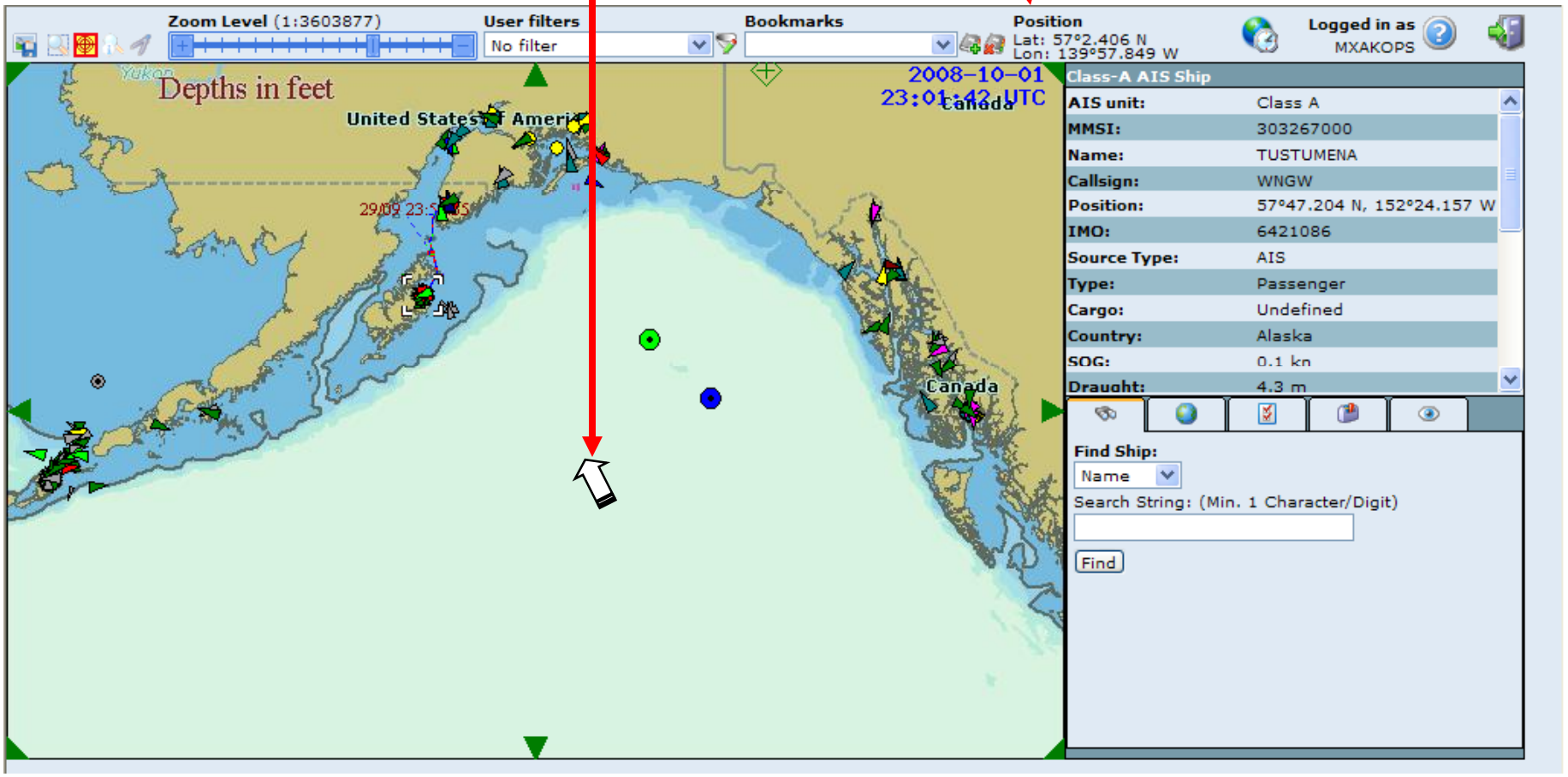
After entering a name, and clicking the OK button - a bookmark is created for the user. The user can now select this bookmark button in the dropdown button. When the location is selected the chart will change its center and zoom level, to the one registered in the bookmark.

The user can also delete bookmarks using the “delete” shown below.



Navigation Area: Position

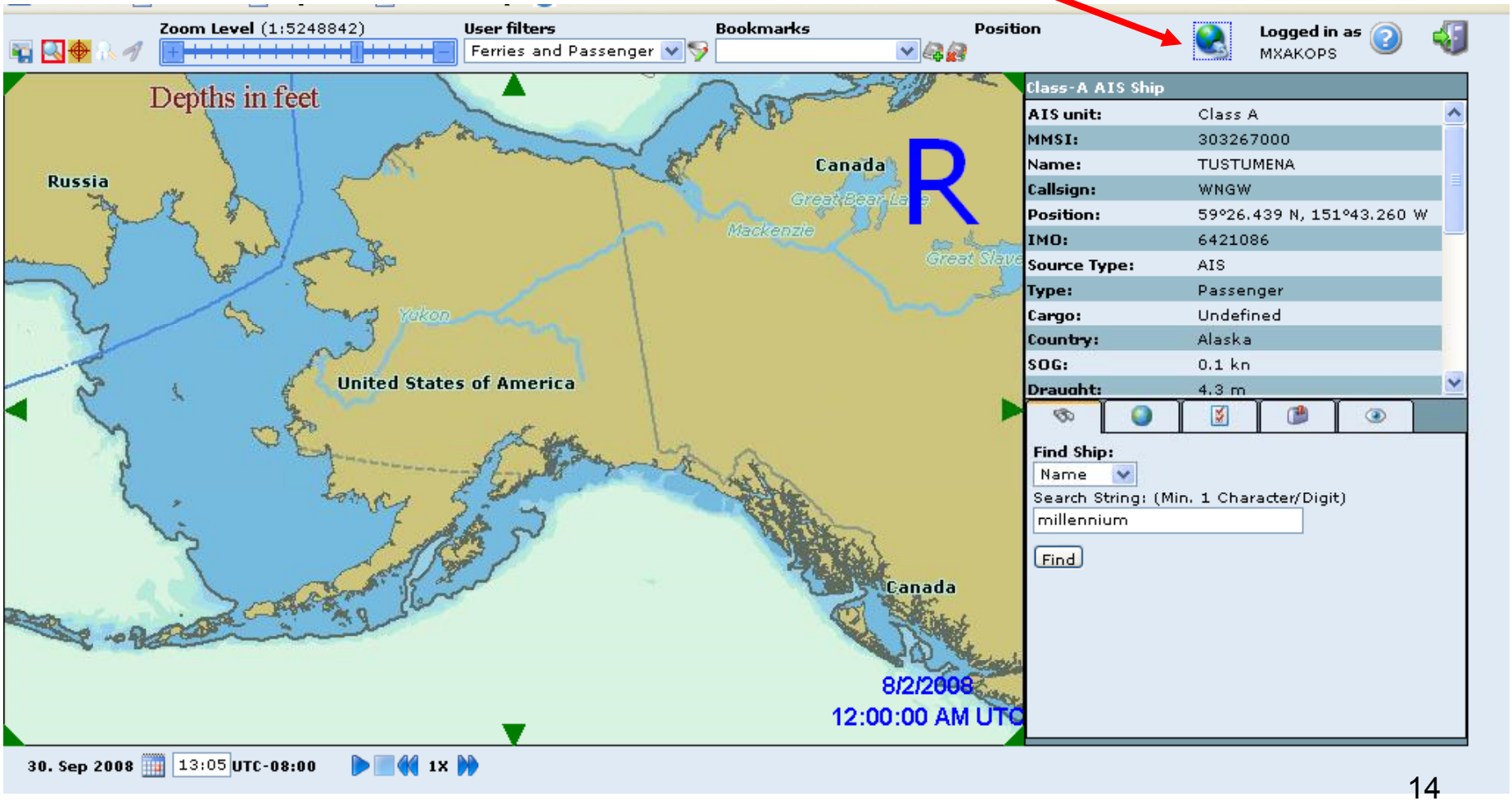
Position At any time when moving the cursor over the map, and holding it there for a short period of time, the position of the cursor on the chart is shown in the upper tool bar area.



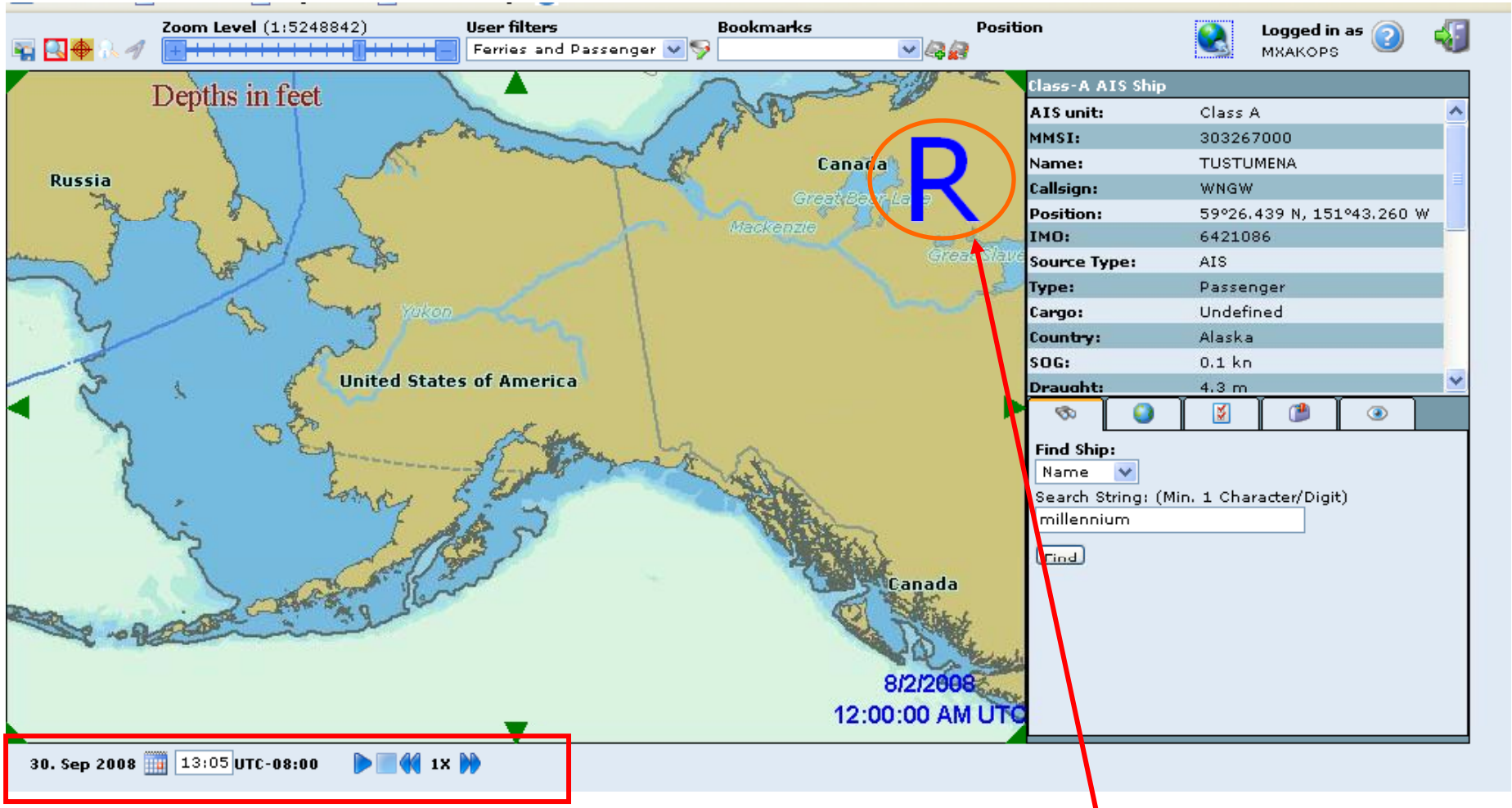
Navigation Area: Replay

If the user has access rights to perform replay an icon will be available in the top of the navigation area, allowing the user to switch to replay mode.

When replay mode is entered the icon will be different (no clock face) and allowing the user to switch to online mode.



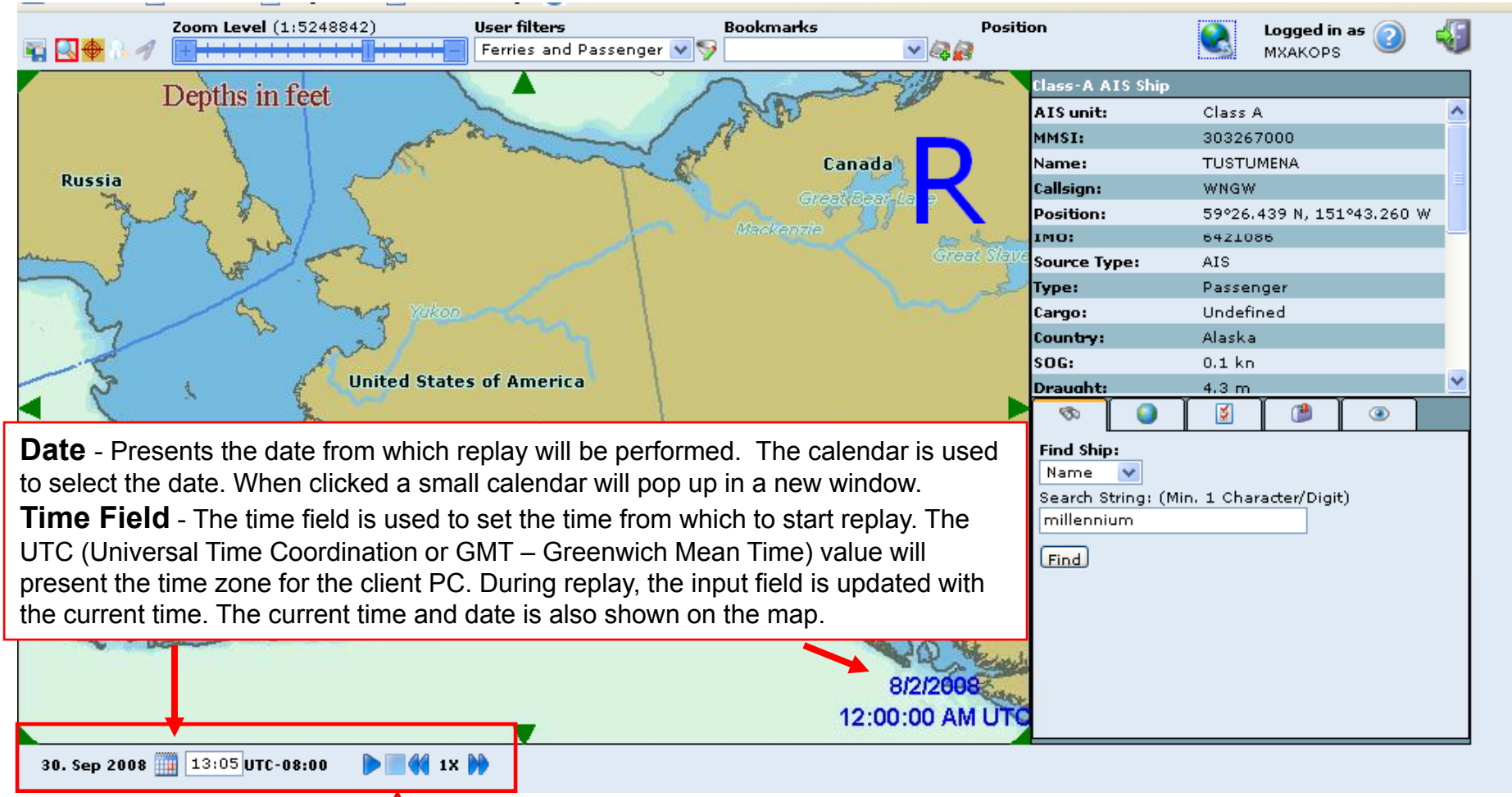
Navigation Area: Replay (cont'd)



Replay mode allows the user to display past vessel data stored in the database.
When replay mode is entered a replay panel will be available in the bottom of the screen.

When in replay mode, a large 'R' is shown in the upper right part of the map to indicate that replay mode is entered. The replay panel and a description of the control options are found on the next slide.

Navigation Area: Replay (cont'd)



Date - Presents the date from which replay will be performed. The calendar is used to select the date. When clicked a small calendar will pop up in a new window.

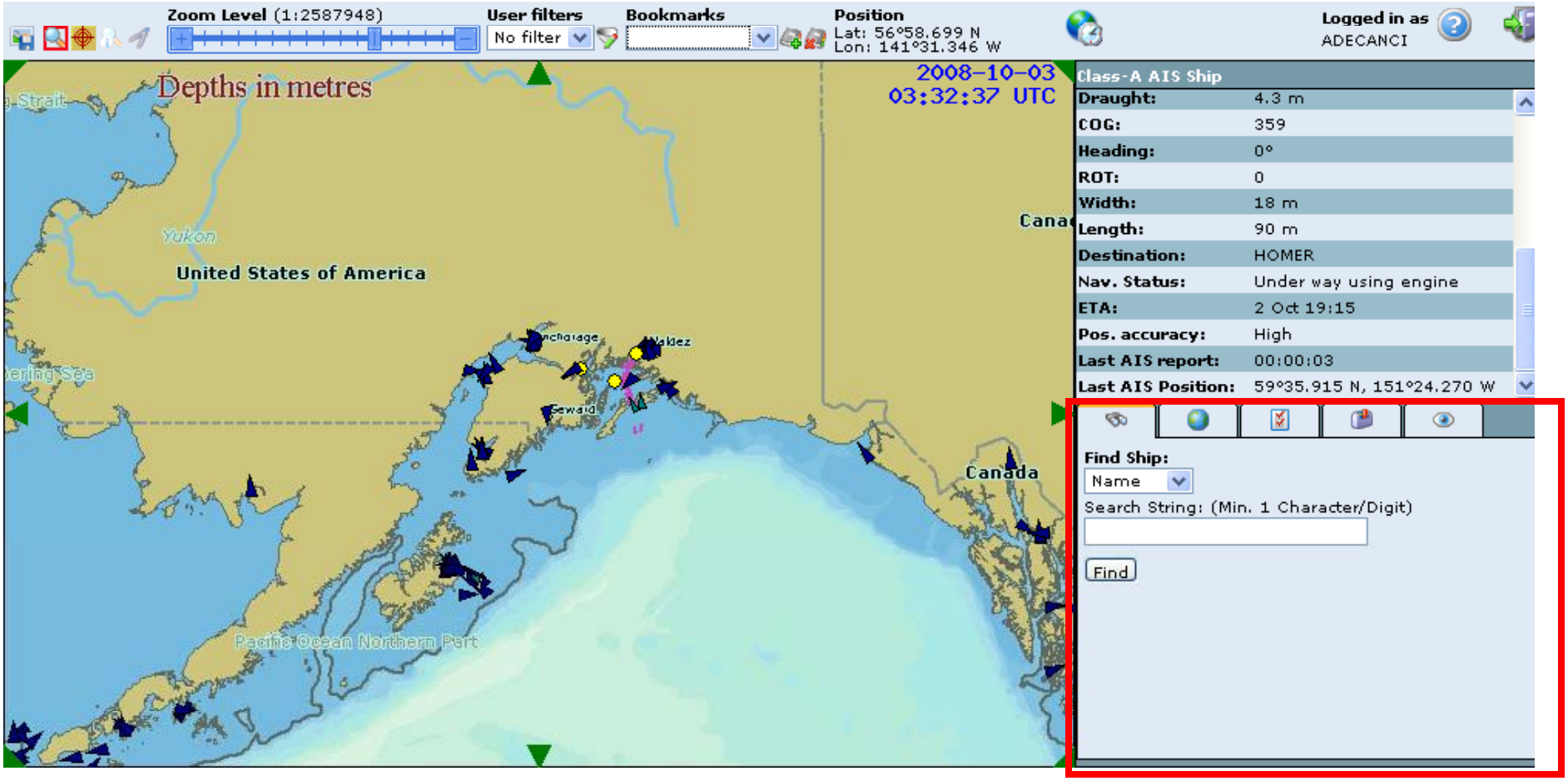
Time Field - The time field is used to set the time from which to start replay. The UTC (Universal Time Coordination or GMT – Greenwich Mean Time) value will present the time zone for the client PC. During replay, the input field is updated with the current time. The current time and date is also shown on the map.

▶ This button is used to start replay. When replay is started the date and time can not be changed.

■ This button is used to stop replay.

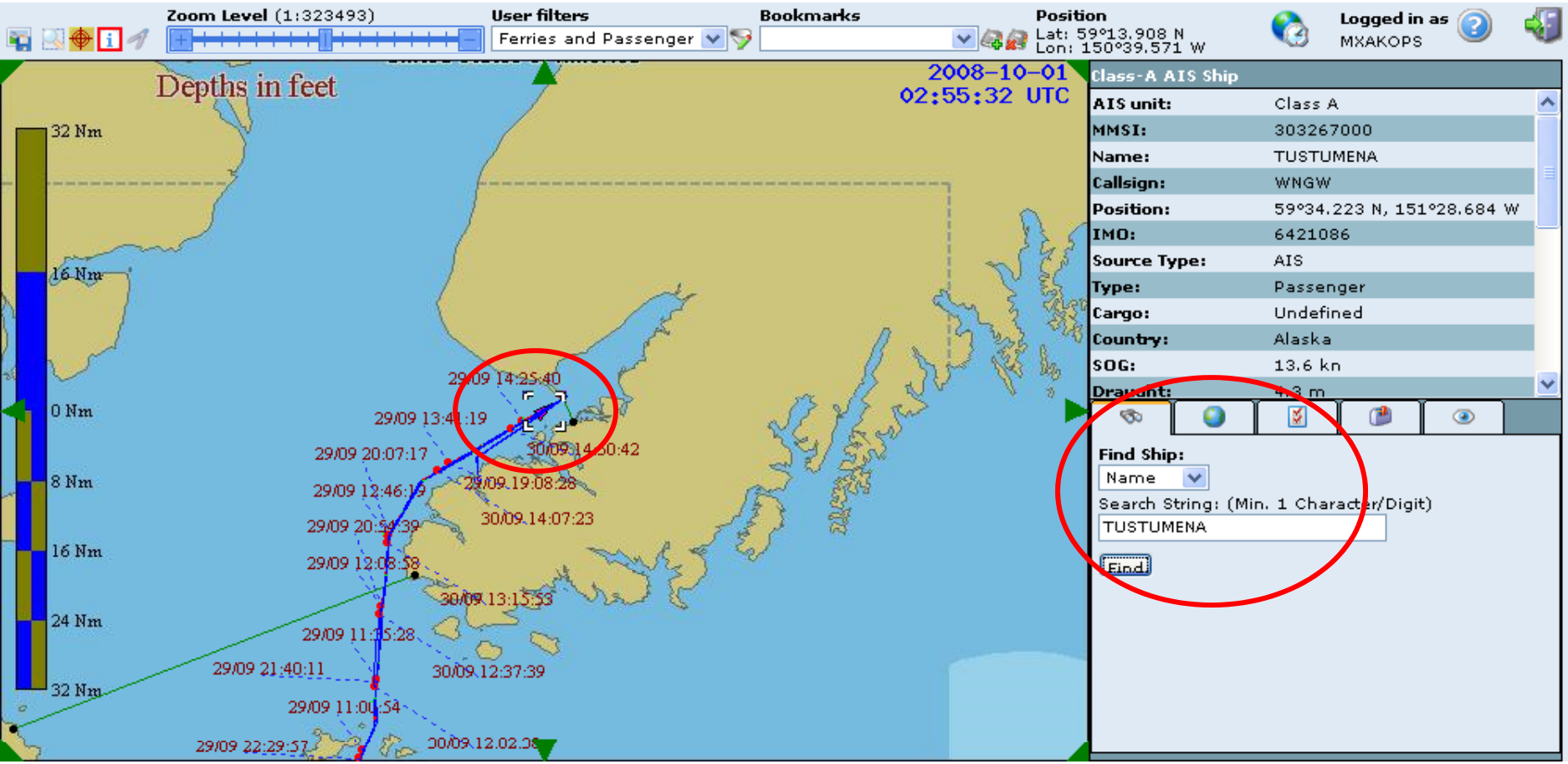
◀◀ ▶▶ These two buttons are used to change the replay speed. The current value is shown between the buttons. The speed can both be positive (forward) and negative (backwards). By default the refresh rate of the map will be 5 seconds. The refresh rate can be changed in Preferences. If resolution is changed in replay mode the replay will stop. It stops at the nearest replay minute. The replay can be started again by pressing the ▶ button.

Options Window



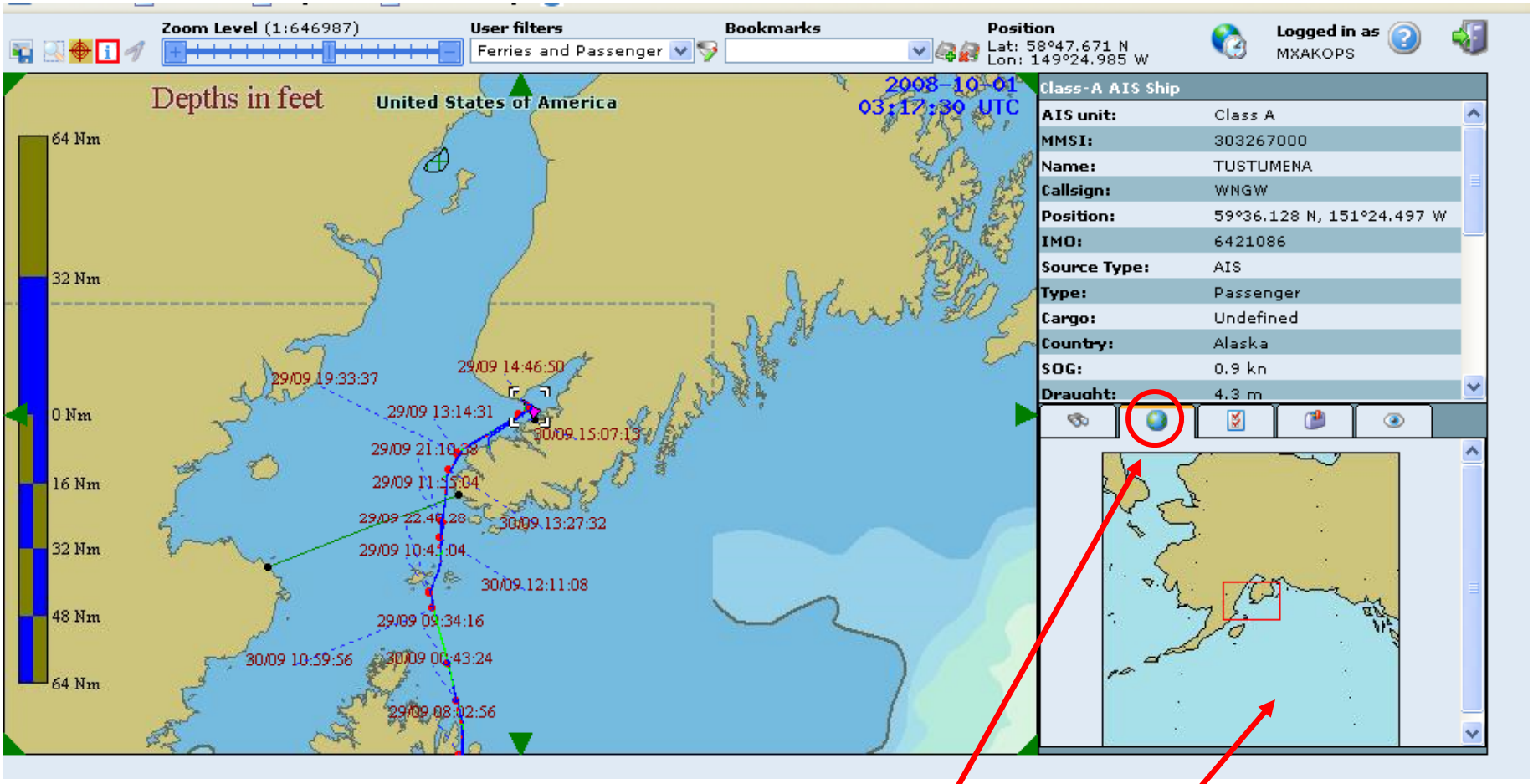
Options Window - The Options Window provides the user with a range of options for configuring the display, provides an overview map of the navigation area to allow for more rapid navigation and provides a listing of watchdog events.

Options: Find "Ship"



The "Find Ship" function accessed by selecting the icon shown above, allows the user to search for a specific vessel's location on the chart. One can search for a vessel by entering the vessel's Call Sign, Ship Name, IMO number or MMSI (Marine Mobile Station Identification) number. The display will highlight the location of the vessel in a white broken box as shown on the chart as shown in the circled area above left.

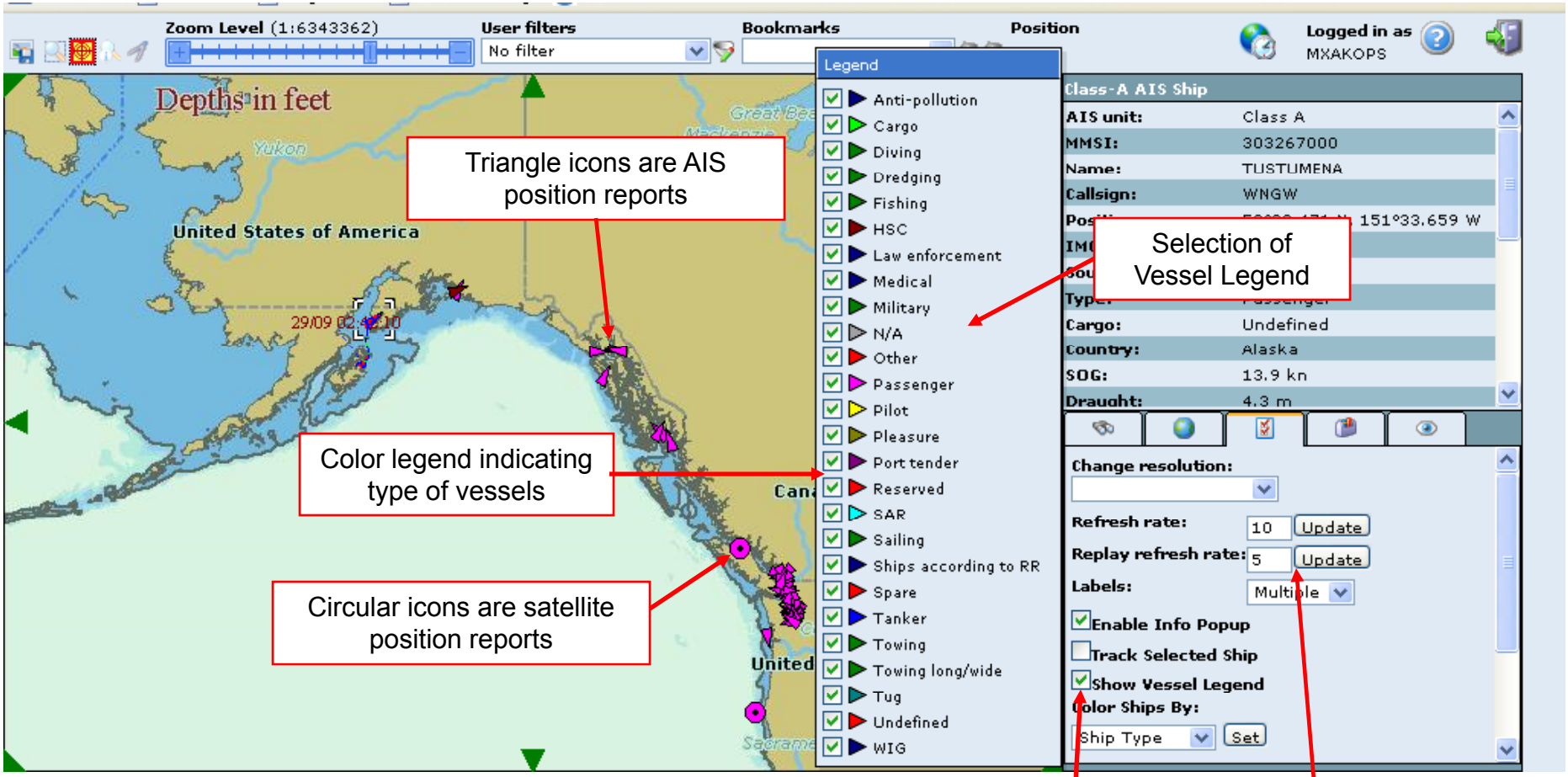
Options: Chart Overview



The overview map function accessed be by selecting the icon above, provides an overview of where the chart view is positioned in reference to larger scale charts represented by a red square on the overview map. The user can move the displayed area to another location by clicking at a desired location outside the box

Options: Preferences and Vessel Legend

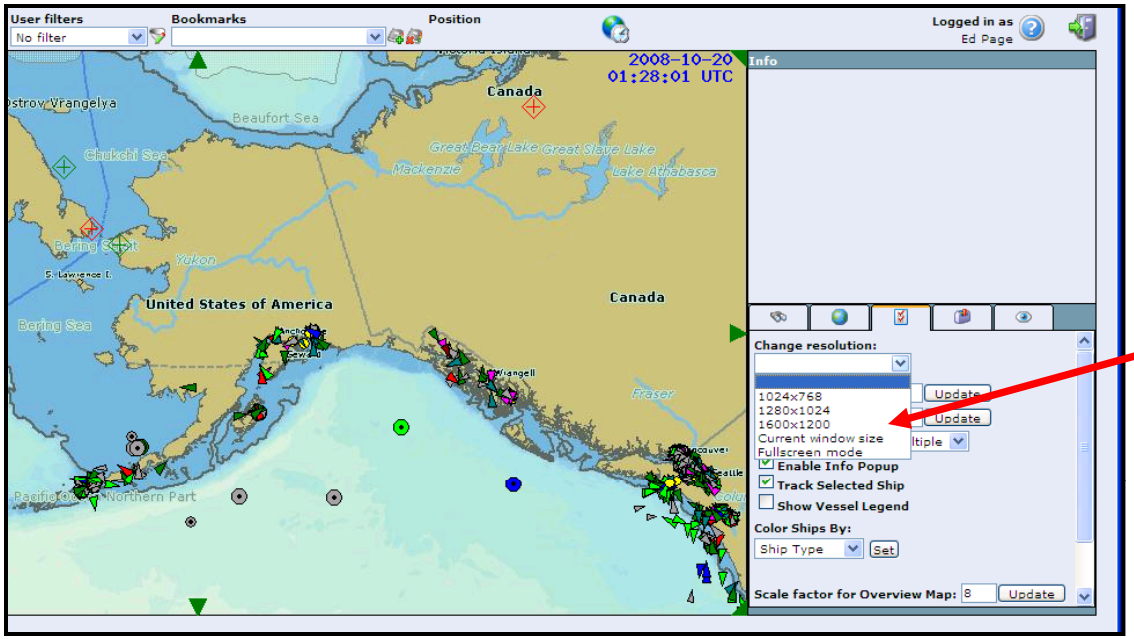
Triangle icons on the chart are AIS reports and circle icons are satellite position reports.



The vessel color legend may be shown or hidden by selecting this box.

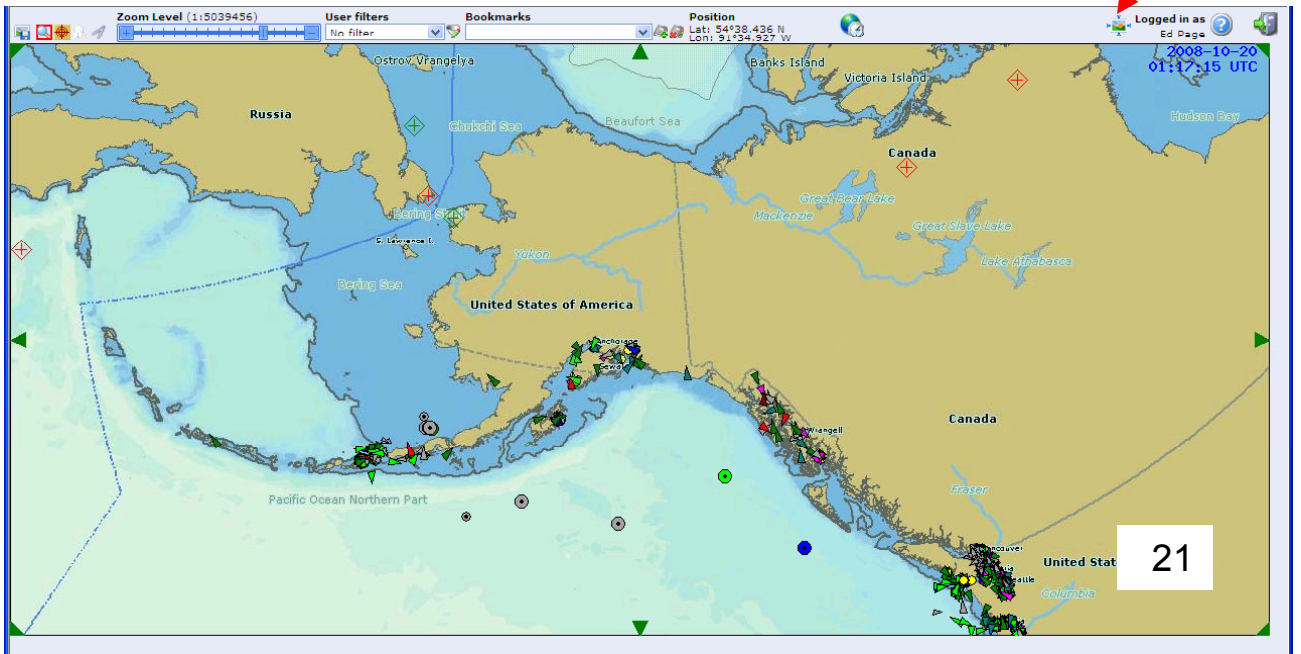
The vessel's position replay rate in minutes may be changed by selecting this feature

Options: Screen Resolution – Full Screen

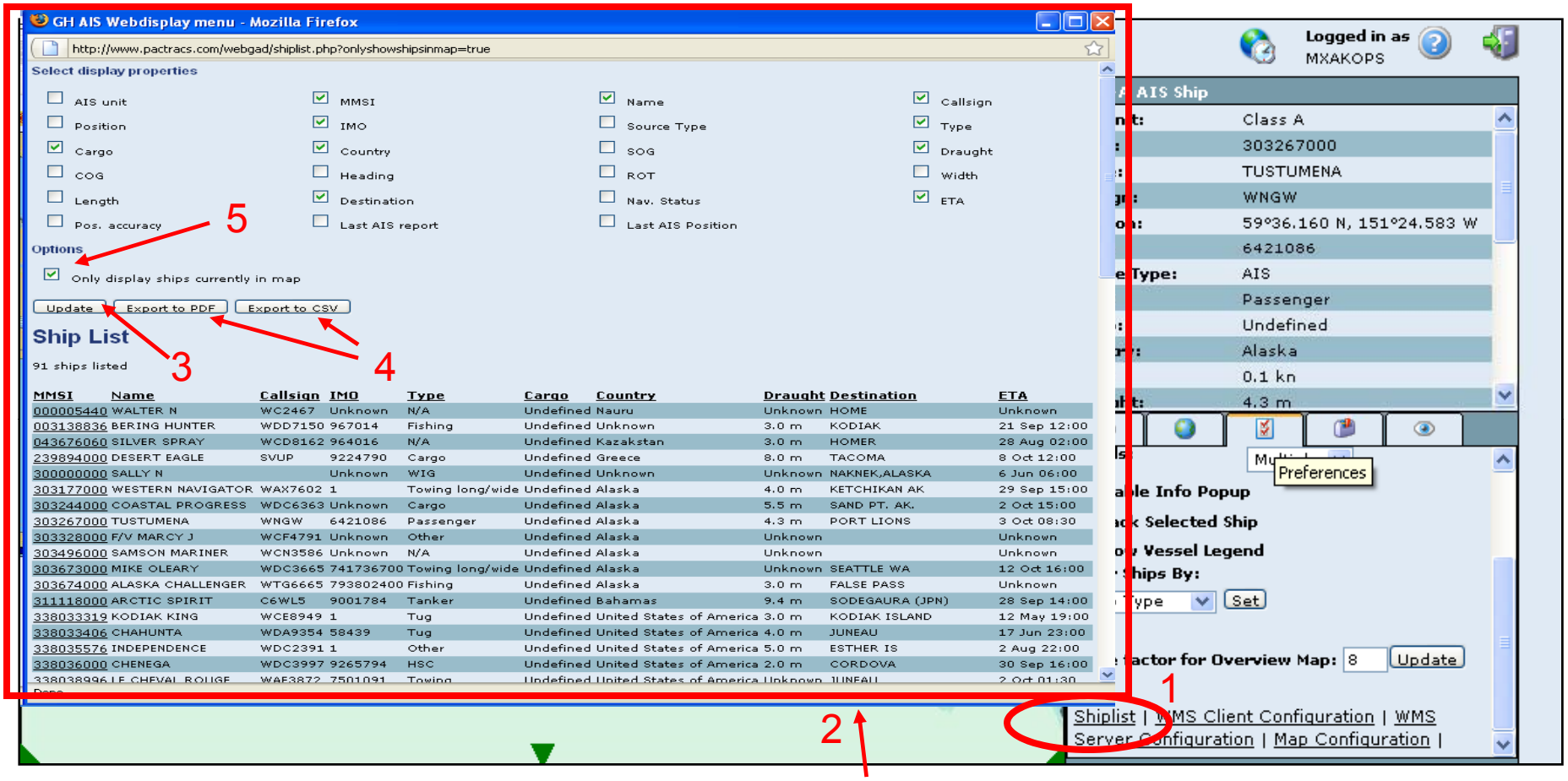


A "full screen" display is available, without the control boxes at right, by selecting the "change resolution" option and "Fullscreen mode" option.

The full screen display at right may be changed to the split screen by selecting the icon at the top right of the screen.



Options: Ship List

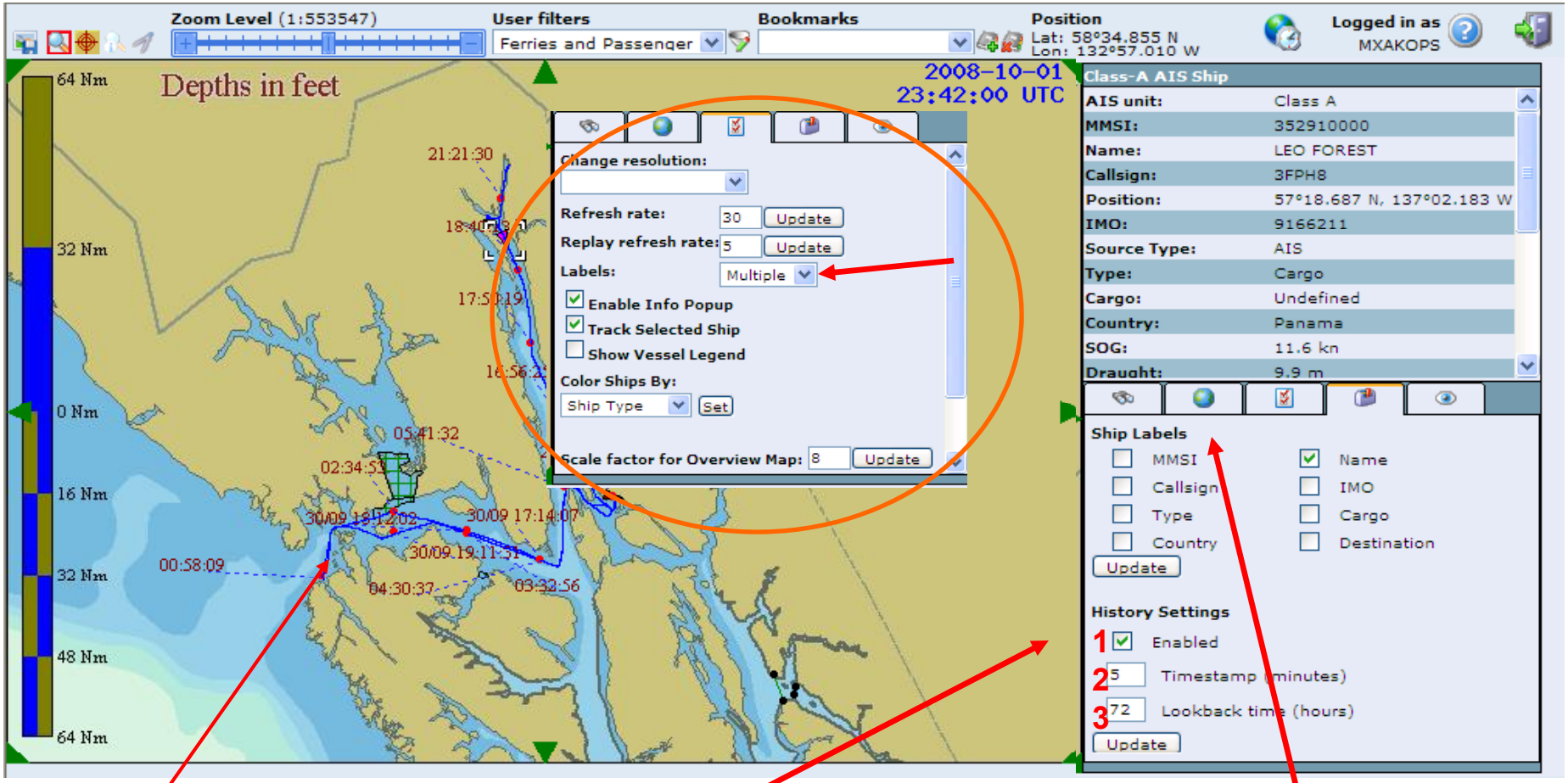

GH AIS Webdisplay menu - Mozilla Firefox
http://www.pactracs.com/webgad/shiplist.php?onlyshowshipsinmap=true
Select display properties
AIS unit
Position
Cargo
COG
Length
Pos. accuracy
MMSI
IMO
Country
Heading
Destination
Last AIS report
Name
Source Type
SOG
ROT
Nav. Status
Last AIS Position
Callsign
Type
Draught
Width
ETA
Options
Only display ships currently in map
Update
Export to PDF
Export to CSV
Ship List
91 ships listed
MMSI Name Callsign IMO Type Cargo Country Draught Destination ETA
000005440 WALTER N WC2467 Unknown N/A Undefined Nauru Unknown HOME Unknown
003138836 BERING HUNTER WDD7150 967014 Fishing Undefined Unknown 3.0 m KODIAK 21 Sep 12:00
043676060 SILVER SPRAY WCD8162 964016 N/A Undefined Kazakstan 3.0 m HOMER 28 Aug 02:00
239894000 DESERT EAGLE SVUP 9224790 Cargo Undefined Greece 8.0 m TACOMA 8 Oct 12:00
300000000 SALLY N Unknown WIG Undefined Unknown Unknown NAKNEK,ALASKA 6 Jun 06:00
303177000 WESTERN NAVIGATOR WAX7602 1 Towing long/wide Undefined Alaska 4.0 m KETCHIKAN AK 29 Sep 15:00
303244000 COASTAL PROGRESS WDC6363 Unknown Cargo Undefined Alaska 5.5 m SAND PT. AK. 2 Oct 15:00
303267000 TUSTUMENA WNGW 6421086 Passenger Undefined Alaska 4.3 m PORT LIONS 3 Oct 08:30
303328000 F/V MARCY J WCF4791 Unknown Other Undefined Alaska Unknown Unknown
303496000 SAMSON MARINER WCN3586 Unknown N/A Undefined Alaska Unknown Unknown
303673000 MIKE OLEARY WDC3665 741736700 Towing long/wide Undefined Alaska Unknown SEATTLE WA 12 Oct 16:00
303674000 ALASKA CHALLENGER WTG6665 793802400 Fishing Undefined Alaska 3.0 m FALSE PASS Unknown
311118000 ARCTIC SPIRIT C6WL5 9001784 Tanker Undefined Bahamas 9.4 m SODEGAURA (JPN) 28 Sep 14:00
338033319 KODIAK KING WCE8949 1 Tug Undefined United States of America 3.0 m KODIAK ISLAND 12 May 19:00
338033406 CHAHUNTA WDA9354 58439 Tug Undefined United States of America 4.0 m JUNEAU 17 Jun 23:00
338035576 INDEPENDENCE WDC2391 1 Other Undefined United States of America 5.0 m ESTHER IS 2 Aug 22:00
338036000 CHENEGA WDC3997 9265794 HSC Undefined United States of America 2.0 m CORDOVA 30 Sep 16:00
338038996 LE CHEVAL ROUGE WAE3872 7501091 Towing Undefined United States of America Unknown JUNEAU 2 Oct 01:30
5
3
4
Logged in as MXAKOPS
AIS Ship
Class A
303267000
TUSTUMENA
WNGW
59°36.160 N, 151°24.583 W
6421086
AIS
Passenger
Undefined
Alaska
0.1 kn
4.3 m
Preferences
Info Popup
Selected Ship
Vessel Legend
Ships By:
Type
Set
Factor for Overview Map: 8
Update
1
2
Shiplist | WMS Client Configuration | WMS Server Configuration | Map Configuration |

By selecting the Shiplist option (1) , the user is presented with a new window (2) presenting all the AIS ship targets currently in the system. If the user has an active filter, this filter is applied to the Shiplist. The user can select the vessel properties to be displayed by clicking the appropriate property buttons then implement the changes by selecting the “update” (3) button.

The shiplist can be exported as a either a PDF or CSV file by clicking the Export to PDF / Export to CSV buttons (4).

By checking the "Only display ships currently in map" option and clicking the update button, the ship list will be filtered so that only ships present on the current chart display will be shown in the Shiplist. (5)

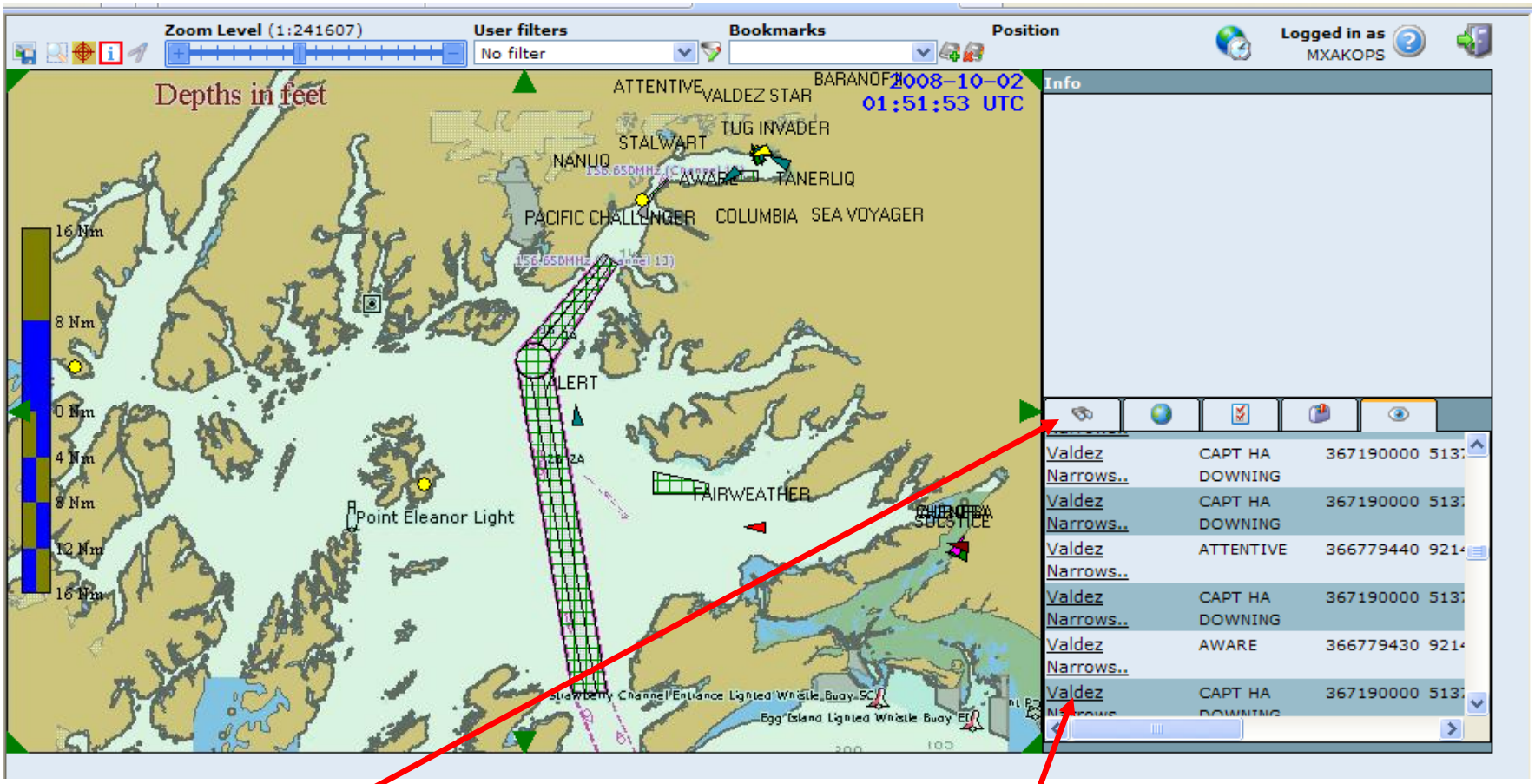
Options: Vessel Tracks and Properties



This part of the "General Settings" dialog allows the user to enable and disable (1) the tracks of vessels, the setting of timestamp intervals (2) and configuring the number of hours historical tracks will be displayed for a selected ship (lookback) (3) After selecting the features the update button should be activated.

This "General Settings" dialog allows the user to choose properties that will be displayed for vessels. To activate, the user needs to select the preference tab then set the “labels” option, to "multiple". After selecting, the update button should be activated.

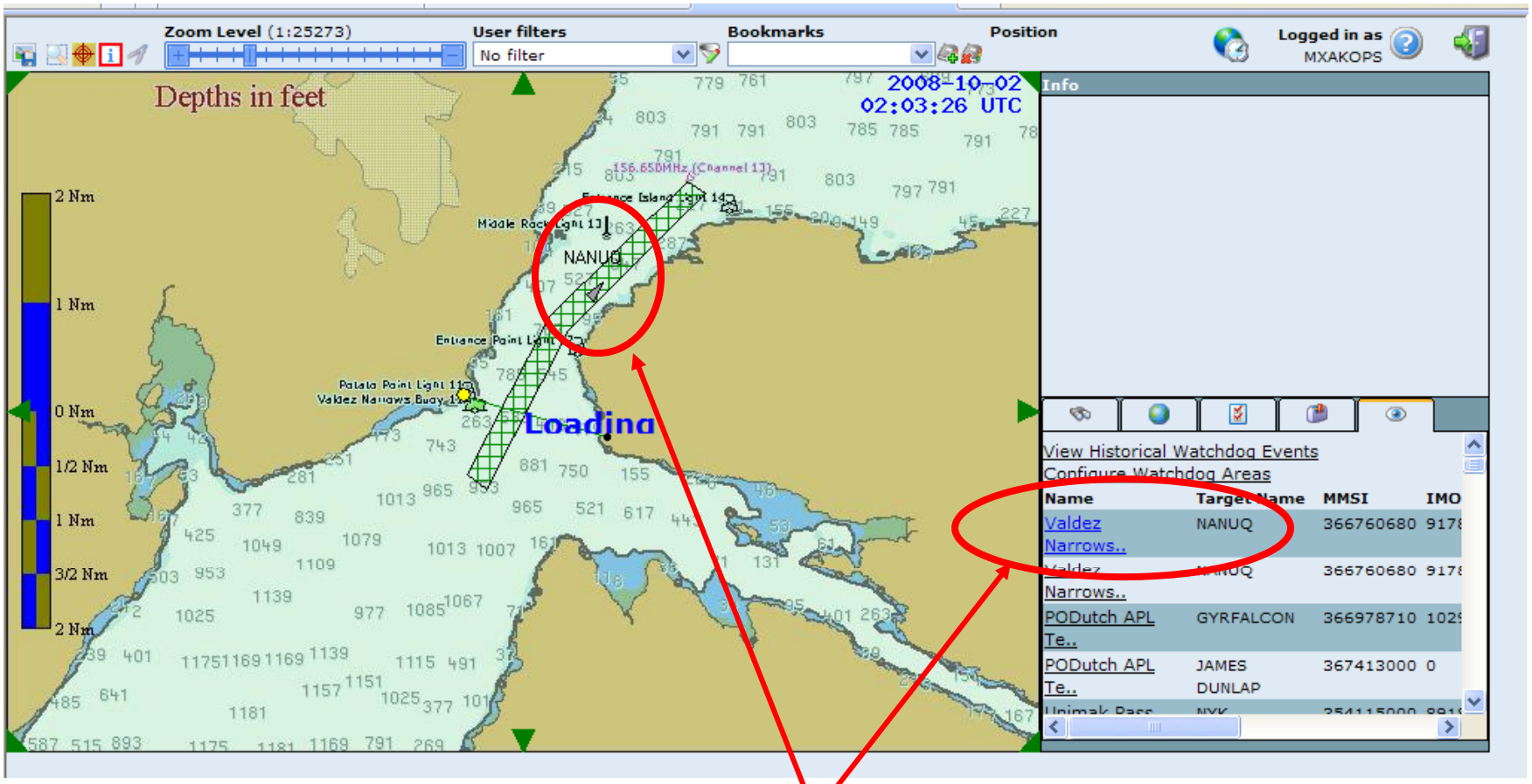
Options: Watchdog Alerts



The binocular icon is selected to show Watch Dogs that are in effect. Administrators can configure watchdogs (Alert Areas) that are available on a per user basis. Contact the Marine Exchange for establishing or modifying watch dogs. (907) 463-2607

If the Watchdog module has been enabled for your user account, a watchdog window will appear in the bottom right corner as illustrated above.

Options: Watchdog Alerts (cont'd)

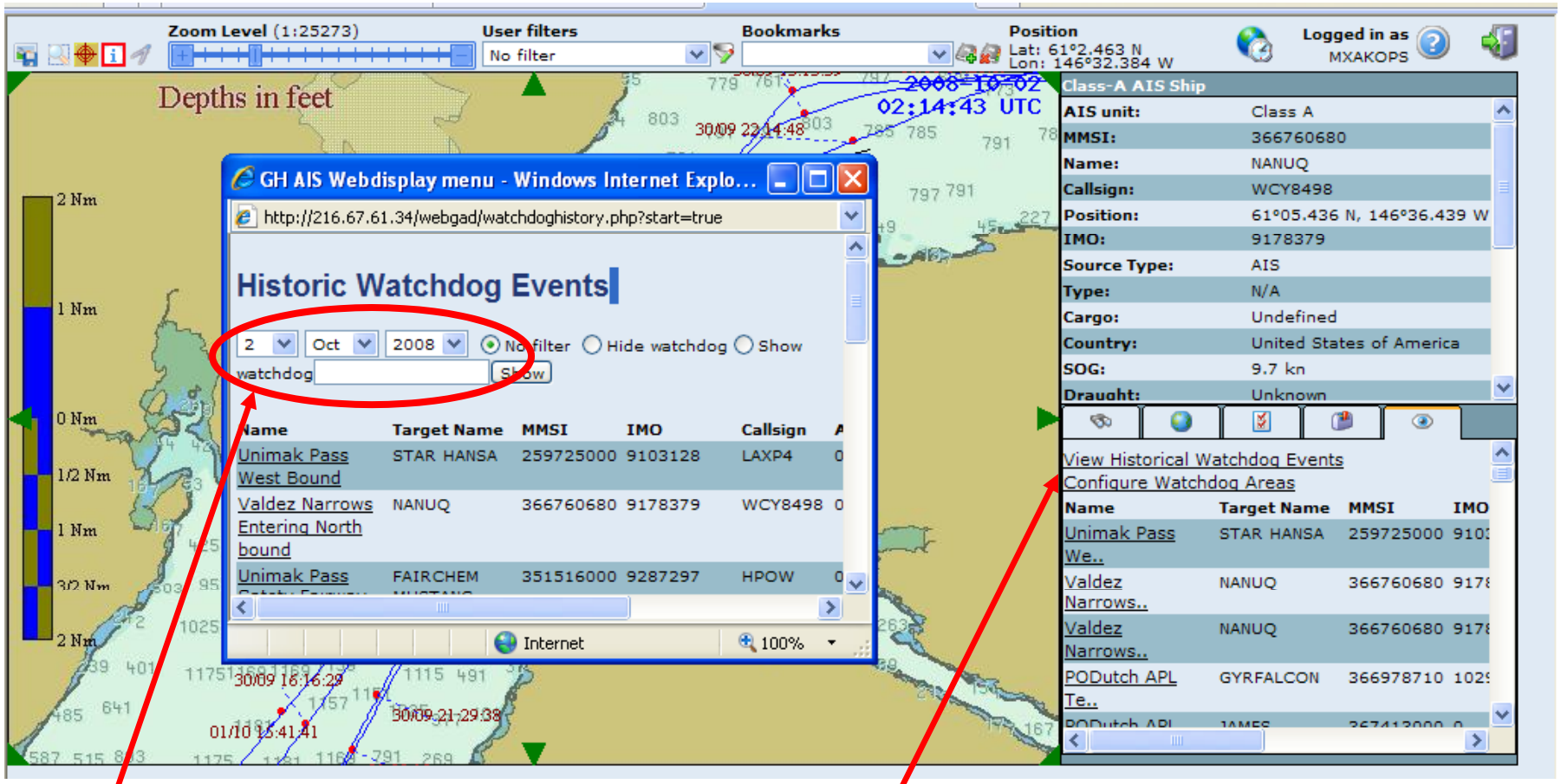


The watchdog window in the bottom right corner shows the watchdog event that has occurred within the past 12 hours. Whenever a new event occurs, a popup window appears in the bottom right corner stating that an event has occurred.

By clicking on the name of the watchdog event, the map will zoom to the location where the watchdog event occurred.

The cross hatched area is a watch dog delineated zone that sends alerts to designated users when specified vessels enter or exit this area.

Options: Watchdog Alerts (cont'd)



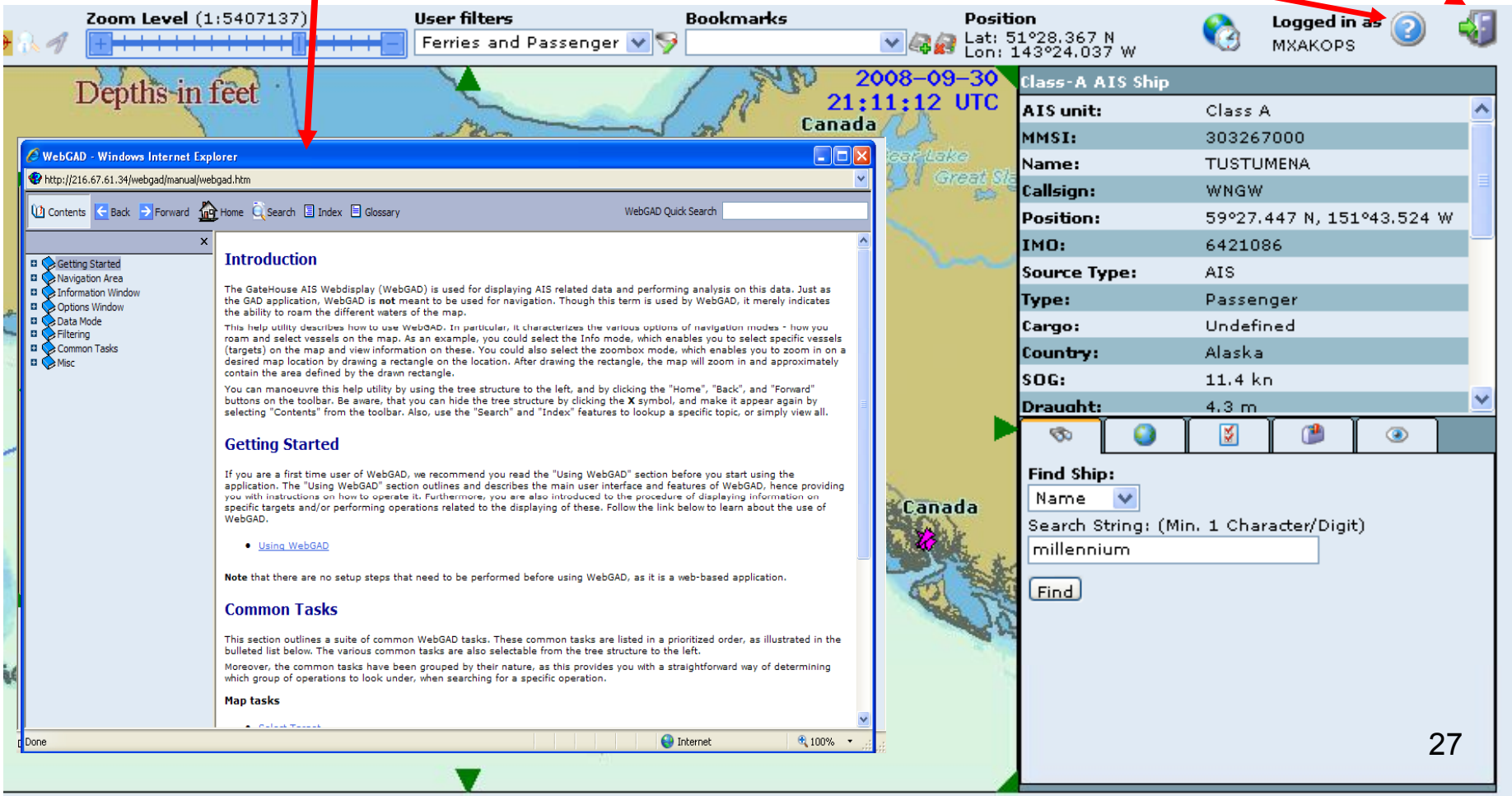
1. By clicking the "View Historical Watchdog Events" link in the live watchdog events window, the historical watchdog event window is presented. This allows the user to show all the watchdog events that occurred on a specific day.

2. A date is selected by using the drop down menus and clicking the "Show button". A list of all events that occurred the specific day is then presented. The user can click the name of the watchdog to zoom the map to the location where the watchdog event occurred.

On Line Help and Log Out

Online Help: This utility describes how to use PACTRACS. By describing the various features. Select the ? icon to access help.

Log Out: Select button on the top right


Zoom Level (1:5407137)
User filters
Ferries and Passenger
Bookmarks
Position
Lat: 51°28.367 N
Lon: 143°24.037 W
Logged in as
MXAKOPS
Depths in feet
2008-09-30
21:11:12 UTC
Canada
WebGAD - Windows Internet Explorer
http://216.67.61.34/webgad/manual/webgad.htm
Contents
Back
Forward
Home
Search
Index
Glossary
WebGAD Quick Search
Getting Started
Navigation Area
Information Window
Options Window
Data Mode
Filtering
Common Tasks
Misc
Introduction
The GateHouse AIS Webdisplay (WebGAD) is used for displaying AIS related data and performing analysis on this data. Just as the GAD application, WebGAD is not meant to be used for navigation. Though this term is used by WebGAD, it merely indicates the ability to roam the different waters of the map.
This help utility describes how to use WebGAD. In particular, it characterizes the various options of navigation modes - how you roam and select vessels on the map. As an example, you could select the Info mode, which enables you to select specific vessels (targets) on the map and view information on these. You could also select the zoombox mode, which enables you to zoom in on a desired map location by drawing a rectangle on the location. After drawing the rectangle, the map will zoom in and approximately contain the area defined by the drawn rectangle.
You can manoeuvre this help utility by using the tree structure to the left, and by clicking the "Home", "Back", and "Forward" buttons on the toolbar. Be aware, that you can hide the tree structure by clicking the X symbol, and make it appear again by selecting "Contents" from the toolbar. Also, use the "Search" and "Index" features to lookup a specific topic, or simply view all.
Getting Started
If you are a first time user of WebGAD, we recommend you read the "Using WebGAD" section before you start using the application. The "Using WebGAD" section outlines and describes the main user interface and features of WebGAD, hence providing you with instructions on how to operate it. Furthermore, you are also introduced to the procedure of displaying information on specific targets and/or performing operations related to the displaying of these. Follow the link below to learn about the use of WebGAD.
Using WebGAD
Note that there are no setup steps that need to be performed before using WebGAD, as it is a web-based application.
Common Tasks
This section outlines a suite of common WebGAD tasks. These common tasks are listed in a prioritized order, as illustrated in the bulleted list below. The various common tasks are also selectable from the tree structure to the left.
Moreover, the common tasks have been grouped by their nature, as this provides you with a straightforward way of determining which group of operations to look under, when searching for a specific operation.
Map tasks
Done
Internet
100%
Class-A AIS Ship
AIS unit: Class A
MMSI: 303267000
Name: TUSTUMENA
Callsign: WNGW
Position: 59°27.447 N, 151°43.524 W
IMO: 6421086
Source Type: AIS
Type: Passenger
Cargo: Undefined
Country: Alaska
SOG: 11.4 kn
Draught: 4.3 m
Find Ship:
Name
Search String: (Min. 1 Character/Digit)
millennium
Find